Small Business Innovation Research/Small Business Tech Transfer

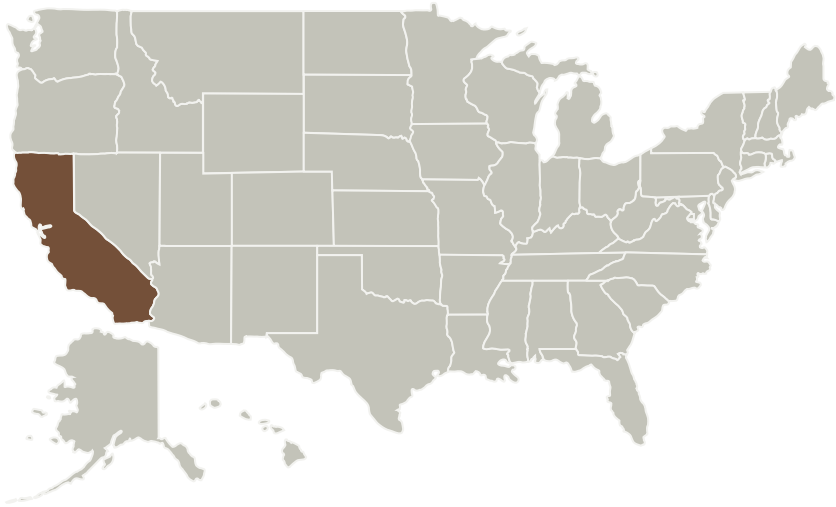
A Low Input Power Cryocooler for Space Applications, Phase I

Completed Technology Project (2011 - 2012)

Project Introduction

Future NASA missions will require cryocoolers providing cooling capacities upwards of 0.3W at 35K with heat rejection capability to temperature sinks as low as 150K and input powers limited to 10W. Presently there are no cooling systems operating at this heat rejection temperature. This proposal describes a cryocooler that employs a cold compressor. The proposed cryocooler will be light-weight, efficient, reliable, have low vibration, and easy to integrate.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Atlas Scientific	Supporting Organization	Industry	San Jose, California

Primary U.S. Work Locations
California

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Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

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Project Management *(cont.)*

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX14 Thermal Management Systems
  - TX14.1 Cryogenic Systems
    - TX14.1.3 Thermal Conditioning for Sensors, Instruments, and High Efficiency Electric Motors